NON-PUBLIC?: N
ACCESSION #: 8802120182

LICENSEE EVENT REPORT (LER)

FACILITY NAME: DIABLO CANYON UNIT 1 PAGE: 1 of 4

DOCKET NUMBER: 05000275

TITLE: REACTOR COOLANT SYSTEM (RCS) LOW FLOW SIGNAL REACTOR TRIP DUE TO
INADEQUATE PROCEDURAL GUIDANCE FOR RETURNING THE RCS FLOW TRANSMITTER HIGH SIDE PIPING TO SERVICE
EVENT DATE: 01/08/88 LER #: 88-002-00 REPORT DATE: 02/08/88

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: David P. Sisk, Regulatory Compliance Engineer
TELEPHONE #: 805-595-7351

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: On January 8, 1988, at 1011 PST, with the unit in mode 1 (Power operation) at 100 percent power, a reactor trip and subsequent turbine trip occurred due to a low reactor coolant system flow signal. All automatic safety systems responded and the unit was stabilized in Mode 3 (Hot Standby) in accordance with plant procedures. The 4-hour nonemergency report required by 10 CFR 50.72 was made at 1341 PST.

A plant technician was refilling the sensing line for a reactor coolant flow transmitter for the loop 3 reactor coolant low flow trip logic when, due to inadequate procedural guidance, he inadvertently depressurized the common high side pressure tap. The depressurization of the high side common tap produced low reacto
coolant flow signals on the redundant loop 3 flow
channels which, coincident with the loss of flow permissive P-8 (the loss of flow permissive actuates when reactor power is above 35 percent), produced the required reactor trip logic.

To prevent recurrence of this event, STP I-8B5 was revised to include detailed guidance and controls for returning RCS flow channel transmitters

to operation as well as precautions to be observed during work on these transmitters when the reactor trip breakers are closed. A tailboard was conducted on this event for I&C technicians. This event is being added to the I&C quarterly training seminar.

(End of Abstract)

I. Initial Conditions

Unit 1 was in Mode 1 (Power Operation) at 100 percent power.

II. Description of Event

A. Event:

On January 8, 1988, at 1011 PST, with the unit in Mode 1 (Power Operation) at 100 percent power, a reactor (AC) trip and subsequent turbine (TA)(TRB) trip occurred due to a low reactor coolant system (RCS)(AB) flow signal. All automatic safety systems responded as required. The unit was stabilized in Mode 3 (Hot Standby) in accordance with plant procedures. The 4-hour nonemergency report required by 10 CFR 50.72 was made at 1341 PST.

A plant technician was refilling the sensing line for a reactor coolant flow transmitter (AB)(FT) for RCS loop 3 when due to inadequate procedural guidance, he inadvertently depressurized the high side pressure tap (AB)(TBG) which is shared by all 3 loop flow transmitters. The depressurization of the high side common tap produced low reactor coolant flow signals on the redundant loop channels which, coincident with the loss of flow permissive P-8 (the loss of flow permissive actuates when reactor power is above 35 percent), produced the required reactor trip logic (2 of 3 channels on 1 of 4 RCS loops).

B. Inoperable structures, components, or systems that contributed to the event:

None

C. Dates and approximate times for major occurrences:

1. January 8, 1988, 1011 PST: Event date - reactor trip.

2. January 8, 1988, 1143 PST: Unit stable in Mode 3.

3. January 8, 1988, 1341 PST: Four-hour nonemergency report made to NRC as required by 10 CFR 50.72.

D. Other systems or secondary functions affected:

None

E. Method of discovery:

The event was immediately apparent to the control room operators due to alarms and other indications.

F. Operator actions:

Operators stabilized the unit in Mode 3 using appropriate emergency procedures.

G. Safety system responses:

1. The reactor trip breakers (JC)(BKR) opened.

2. The turbine tripped.

3. The control rod drive mechanisms (AA)(75) allowed the control rods to drop into the reactor (AC)(RCT).

4. Auxiliary feedwater (AFW) pumps (BA)(MO)(P) started per design.

5. Main feedwater (SJ) was isolated.

III. Cause of event:

A. Immediate cause:

The high side pressure tap (AB)(TBG) which is shared by all 3 loop flow transmitters (AB)(FT) was inadvertantly depressurized producing low reactor coolant flow signals which coincident with the loss of flow permissive (P-8) produced the required reactor trip logic (2 out of 3 channels on 1 out of 4 RCS loops).

B. Root cause:

Procedural deficiency: The procedure did not provide precautions to be observed during work on the high side of the flow transmitter with the reactor trip breakers closed.

IV. Analysis of Event:

A reactor trip from 100 percent power is a previously analyzed Condition II event. The proper response to the low flow signal demonstrated that had an actual reactor coolant low flow condition occurred, the reactor would have automatically shut down per design. Thus, the health and safety of the public were not affected during or after this event.

V. Corrective Actions:

A. Surveillance Test Procedure (STP) I-8B5, "Reinstatement of Reactor Coolant Flow Channels to Service," was revised to include precautions for working on these transmitters when the reactor trip breakers are closed.

B. Other STPs involving transmitters that share a common tap will be reviewed and revised as applicable.

C. An immediate tailboard was conducted on this event for Instrumentation and Controls (I&C) technicians. This event is being added to the I&C quarterly training seminar.

VI. Additional Information:

A. Failed components:

None

B. Previous LERs on similar events:

LER 2-86-019 Reactor Trip and Safety Injection Actuation (Due to Procedural Deficiency). The applicable procedure did not provide necessary precautions for operating the cold reheat safety valves at low power levels. The corrective action of revising operating procedure (OP) C-5 "Moisture Separator Reheaters" was revised to add applicable precautions. Since the event reported in LER 1-88-002 did not involve OP C-5, this corrective action could not have prevented occurence

of the event reported in LER 1-88-002.

ATTACHMENT # 1 TO ANO # 8802120182 PAGE: 1 of 1

PACIFIC GAS AND ELECTRIC COMPANY
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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION February 8, l988

PG&E Letter No.: DCL-88-033

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-80
Diablo Canyon Unit 1
Licensee Event Report 1-88-002-00
Reactor Coolant System (RCS) Low Flow Signal Reactor Trip Due to Inadequate Procedural Guidance For Returning the RCS Flow Transmitter High Side Piping to Service

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv), PG&E is submitting the enclosed Licensee Event Report concerning the reactor coolant system low flow signal reactor trip due to inadequate procedural guidance for returning the RCS flow transmitter high side piping to service. This event has in no way affected the public's health and safety.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. D. Shiffer

Enclosure

cc: J. B. Martin
M. M. Mendonca
P. P. Narbut
B. Norton

B. H. Vogler
CPUC
Diablo Distribution
INPO

DC1-88-IO-N002

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